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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/682,276	08/13/2001	Rieko Kataoka	JP920000224US1	4826

877 7590 05/20/2004

IBM CORPORATION, T.J. WATSON RESEARCH CENTER  
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YORKTOWN HEIGHTS, NY 10598

EXAMINER
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LAO, LUN YI

ART UNIT	PAPER NUMBER
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2673

12

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/682,276

Applicant(s)

KATAOKA ET AL.

Examiner

Lao Y Lun

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 4,7,9-13 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6,14 and 16-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 16, 17, 19 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Palalau(6,266,035).

As to claims 1-3, 16, 17, 19 and 26, Palalau teaches a display apparatus comprising a display screen(22); a display controller(30) for being able to change a refresh rate of the display screen according to a brightness of the display screen(see figure 1; column 1, lines 29-33 and column 2, lines 10-29). Palalau teaches the brightness of the display screen(22) is set to a plurality of levels and the refresh rate of the display is set to correspond to each level the brightness of the display screen(22)(e.g. sixteen-level brightness, the refresh rate is 900 HZ)(see figure 1; column 1, lines 30-46 and column 2, lines 30-55).

As to claims 2-3, Palalau teaches the display controller(30) can changed the refresh rate to a plurality of levels when a predetermined condition is met(e.g. the

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brightness level of the display is changed)(see figure 1; column 1, lines 30-46 and column 2, lines 30-55).

As to claims 16 and 17, Palalau teaches the refresh rate of the display panel decrease as the luminance(fluctuation) of the light source decrease(see column 1, lines 29-33).

As to claims 19 and 26, Palalau teaches a light source for illuminating the display screen(electroluminescent display)(see figure 1 and column 2, lines 10-12).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5-6 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arakawa(6,268,843) in view of Palalau(6,266,035).

Arakawa teaches a display apparatus comprising a light source(20) for illuminating the display panel(30) (see figures 1-3; column 2, lines 44-61 and column 3, lines 31-54).

Arakawa fails to the refresh rate of the display is set to corresponding to each level of the luminance of the light source.

Palalau teaches a display apparatus comprising a display screen(22); a display controller(30) for being able to change a refresh rate of the display screen according to

a brightness of the display screen(see figure 1; column 1, lines 29-33 and column 2, lines 10-29). Palalau teaches the brightness of the display screen(22) is set to a plurality of levels and the refresh rate of the display is set to correspond to each level the brightness of the display screen(22)(e.g. sixteen-level brightness, the refresh rate is 900 HZ)(see figure 1; column 1, lines 30-46 and column 2, lines 30-55). It would have been obvious to have modified Arakawa with the teaching of Palalau, since controlling the display brightness by varying a refresh rate is more simple than by varying voltage levels.

As to claims 6 and 20-21, Palalau teach the refresh rate of the display panel decrease as the luminance of the light source decrease(see column 1, lines 29-33).

As to claim 22, Arakawa teach an LCD display(42, 30)(see figures 1-2 and column 2, lines 44-65).

5. Claims 18 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palalau(6,266,035) in view of Friend et al(6,052,279).

Palalau fails to disclose the luminance of the back light by a user.

Friend et al teach the illuminance of the back light source can be controlled by a user(see column 4, lines 34-43). It would have been obvious to have modified Arakawa as modified with the teaching of Friend et al, since the luminance of light source can be changed as a user wanted.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arakawa(6,268,843) in view of Palalau(6,266,035) and Friend et al(6,052,279).

Arakawa as modified fail to disclose the luminance of the back light by a user.

Friend et al teach the illuminance of the back light source can be controlled by a user(see column 4, lines 34-43). It would have been obvious to have modified Arakawa as modified with the teaching of Friend et al, since the luminance of light source can be changed as a user wanted.

7. Claims 14 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toffolo et al(6,337,675) in view of Palalau et al(6,049,324).

As to claims 14 and 23-24, Toffolo et al teach a display apparatus comprising the steps of detecting a change in a brightness of the display screen(22) and changing a refresh rate of the display screen according to the change in brightness of the display screen(22)(see figure1; column 1, lines 57-68 and column 2, lines 1-13).

Toffolo et al fail to the refresh rate of the display is set to corresponding to each level of the luminance of the light source.

Palalau et al teach the refresh rate of the display is set to corresponding to each level of the luminance of the light source(see the discussion of Palalau et al above). It would have been obvious to have modified Toffolo et al with the teaching of Palalau et al, so as to provide a higher quality of gray scale display.

As to claims 23-24, Palalau teach the refresh rate of the display panel decrease as the luminance of the light source decrease(see column 1, lines 29-33).

***Response to Arguments***

8. Applicant's arguments with respect to claims 1-3, 5-6, 8, 14 and 16-26 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-yi, Lao whose telephone number is (703) 305-4873.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached at (703) 305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

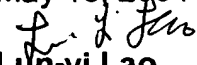
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

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May 13, 2004

  
**Lun-yi Lao**  
**Primary Examiner**